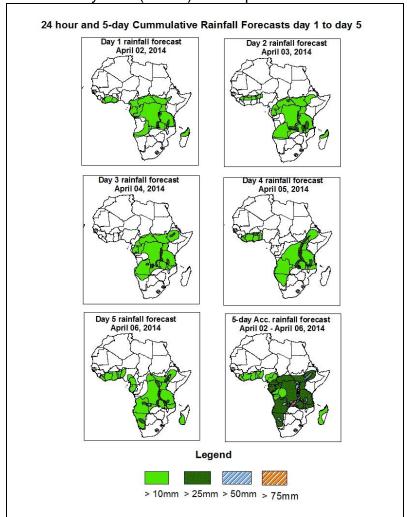


# NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of April 02 – 06Z of April 06, 2014. (Issued at 1600Z of April 01, 2014)

#### 1.1. Twenty Four Hour Cumulative Rainfall Forecasts

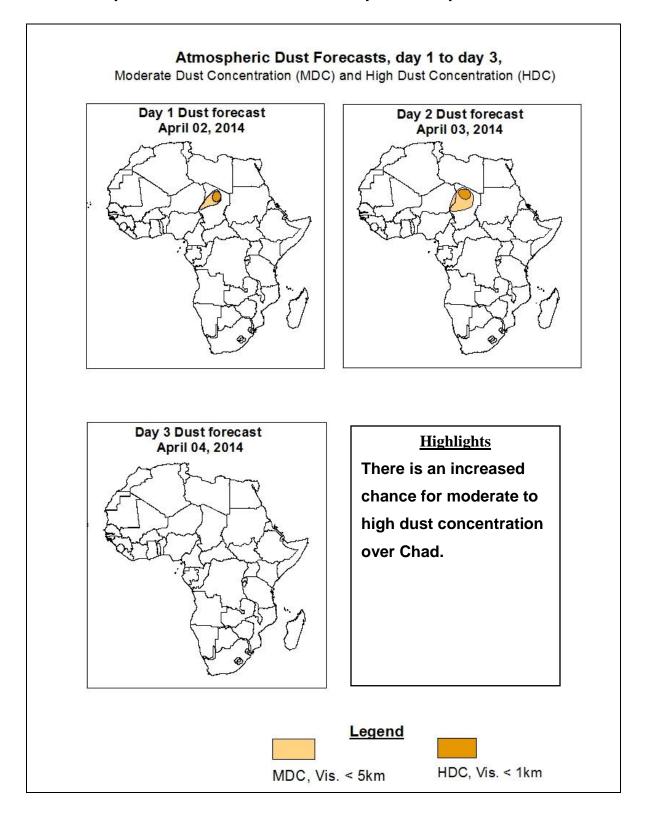
The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP/GFS and UK Met Office NWP outputs, and the NCEP global ensemble forecasts system (GEFS) and expert assessment.



#### Summary

In the coming five days, lower-tropospheric wind convergences across the gulf of guinea, East, Central and Southern Africa countries are expected to persist and hence continued moderate rains over Angola, Gabon, Equatorial Guinea, Tanzania, DRC, Namibia, Central African Republic, Ethiopia, south Sudan, Uganda parts of Zambia, Cameroon, Congo Brazzaville, Bissau Guinea, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria and Madagascar. Dry conditions are expected to persist over Zimbabwe, Mozambique, Botswana and South Africa.

### 1.2. Atmospheric Dust Forecasts: Valid April 02 - April 04 2014



#### 1.3. Model Discussion: Valid from 00Z of April 02, 2014

Model comparison (GFS and UKMET Valid from 00Z: April 02, 2014) shows general agreement in terms of depicting positions of the northern and southern hemisphere subtropical highs, while they showed slight differences in depicting their intensity.

The St. Helena High Pressure System is expected to relax in first half of forecast, its central pressure value around 1027Hpa and 1025Hpa. This will result in decrease rainfall over Angola. However will expected continued dry conditions over Botswana, Namibia and South Africa for the forecast period.

In first half of forecast period, the Mascarene High Pressure System is expected to relax, its central pressure value between 1032Hpa and 1028Hpa. However In the second half, the St. Helena High Pressure System will be able to move to the East taking over the Mascarene, bring rains in Namibia.

At 850Hpa level, Moderate to strong convergence is expected to persist throughout the forecast period over Democratic Republic of Congo (DRC), Angola, Tanzania Cameroon and parts of Sudan, Center African Republic, Zambia, Nigeria, Uganda, Namibia and Ethiopia.

At 500Hpa level, troughs associated with mid-latitude frontal system persist and are expected to result in some tropical, extra-tropical interactions bringing rains over Bissau Guinea, Liberia, Burkina Faso, Ivory Coast, Ghana, Togo, Benin, over South Sudan, Nigeria and Ethiopia for most part of the forecast period.

At 200hpa level, the sub-tropical Westerly Jet mainly (with wind speed >70 knots and <130 knots), extending between Mauritania, Algeria, Libya and Egypt, and across, Mali, Niger, Chad, Western Sahara, persist during the forecast period. In the south, the sub-tropical westerly Jet (with speed >70 knots and <110 knots) is expected over South Africa, Indian and Atlantic Ocean.

In the coming five days, lower-tropospheric wind convergences across the gulf of guinea, East, Central and Southern Africa countries are expected to persist and hence continued moderate rains over Angola, Gabon, Equatorial Guinea, Tanzania, DRC, Namibia, Central African Republic, Ethiopia, south Sudan, Uganda parts of Zambia, Cameroon, Congo Brazzaville, Bissau Guinea, Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria and Madagascar. Dry conditions are expected to persist over Zimbabwe, Mozambique, Botswana and South Africa.

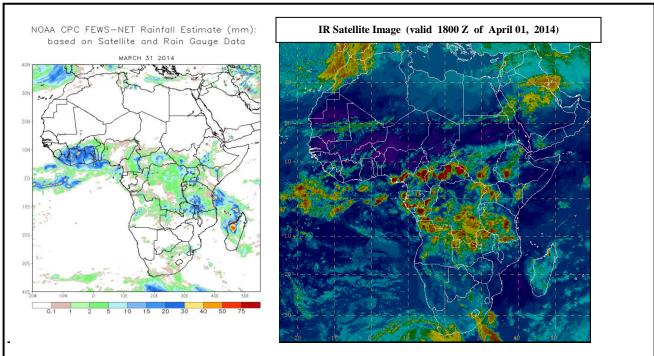
## 2.0. Previous and Current Day Weather Discussion over Africa (March 31, 2014 – April 01, 2014)

#### 2.1. Weather assessment for the previous day (March 31, 2014)

During the previous day, moderate rainfall was observed over Liberia, Bissau Guinea, Ivory Coast, Ghana, Togo, Benin and parts of Angola, DRC, Tanzania, Cameroon, Zambia, Uganda, Ethiopia, Central African Republic, South Sudan and Madagascar.

#### 2.2. Weather assessment for the current day (April 01, 2014)

Intense clouds are observed over parts of Gulf of Guinea, East, Central and Southern Africa countries as well as Madagascar.



Previous day rainfall condition over Africa (top Left) based on the NCEP CPCE/RFE and current day cloud cover (top right) based on IR Satellite image

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